

NETWOODRESIST – An international network of open laboratories between Europe and Latin America to develop new tools on wood adaptative traits for drought stress and climatic change studies

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NETWOODRESIST - CONTEXT



Life is conditioned by climate variates as available light energy, temperature and water. These parameters are particularly critical for tree species which are immobile and long-lived. Global warming is responsible for significant changes to the annual cycle of tree development as well as for tree growth decay and mortality events all around the world. As a fundamental indicator for climate, ecosystem and environment, wood variability, as expressed in tree-rings, is useful for studies on climate change.

Basic studies and development of new tools able to measure wood adaptative traits, our goal, are crucial for different purposes such as climate reconstruction, better understanding of tree adaptation to abiotic stresses, sustainable forest production, and wood transformation according to different end-using.

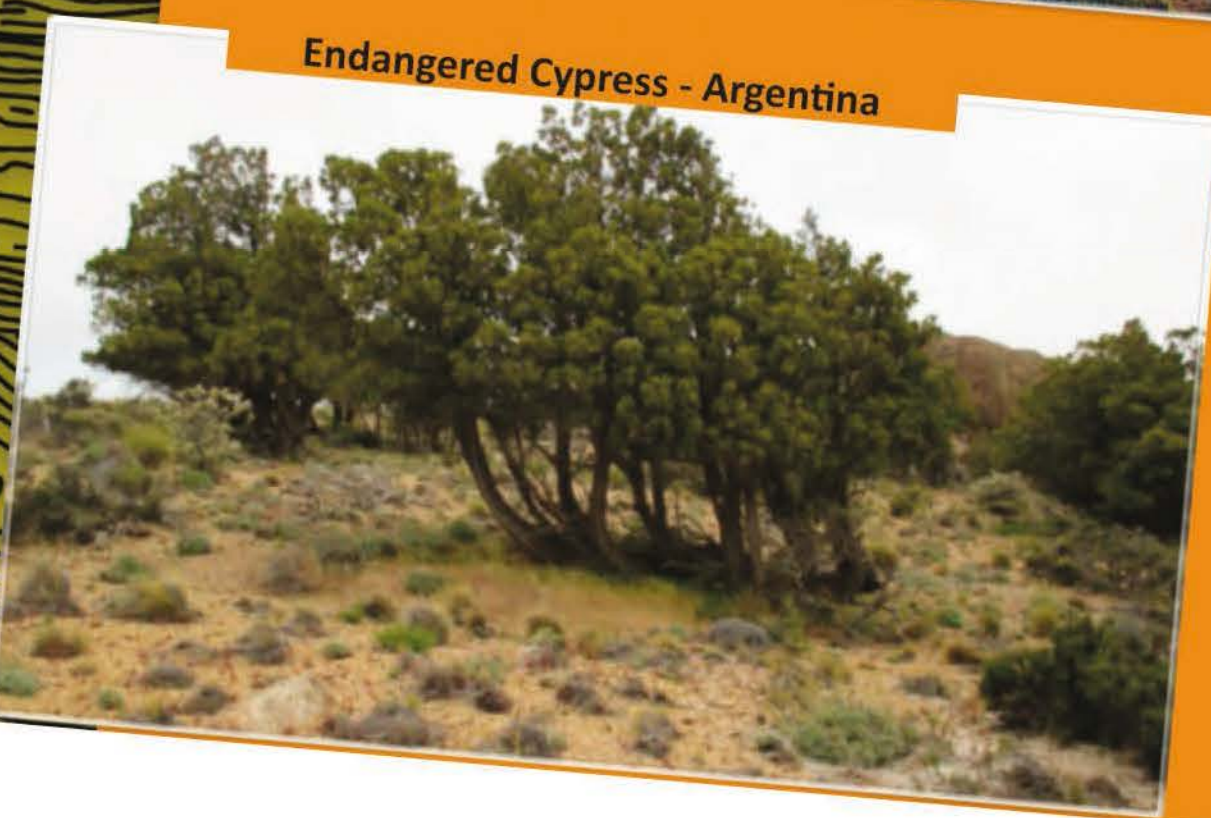
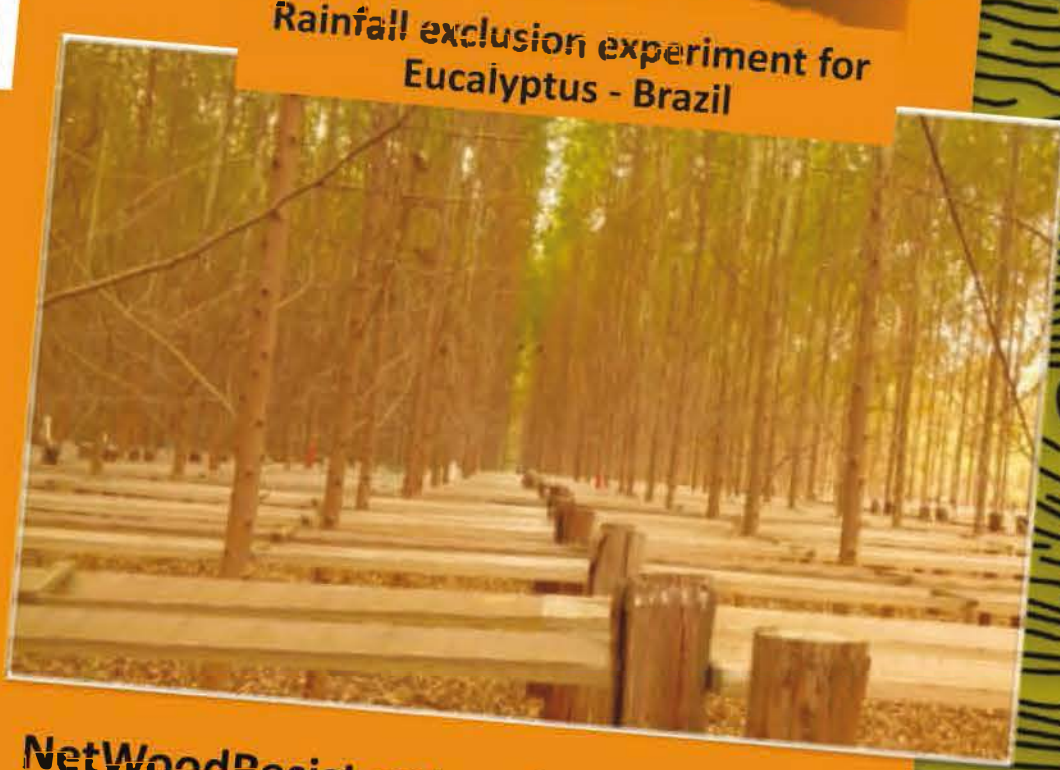


NETWOODRESIST - OBJECTIVES

Our goal is to create an international network between Europe and Latin America of open laboratories and to reinforce EU and LAC researchers' access to infrastructure and common expertise on the development and testing of innovative tools/methods for measurement of wood adaptative traits.

The founders are leaders in their respective research area as ecophysiology, wood chemistry, quantitative genetics, wood technology, and belong to the following institutions: INTA Bariloche and Tandil, National University of Misiones (Argentina), ESALQ-USP (Brazil), INRA Val de Loire (France), CIRAD (France), University of Lisboa (Portugal).

They are involved in studies on tree adaptation to climate changes across wood formation and wood properties consequences.

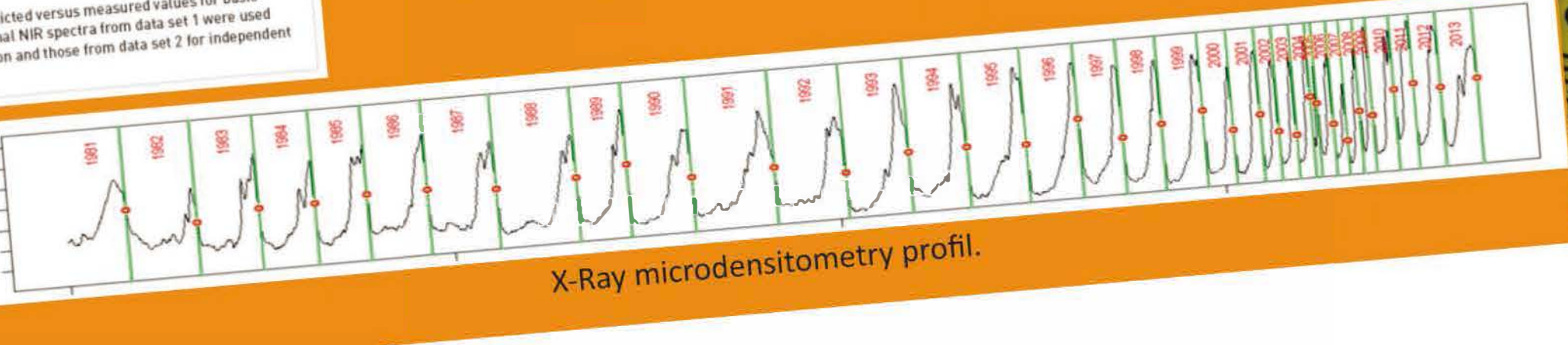
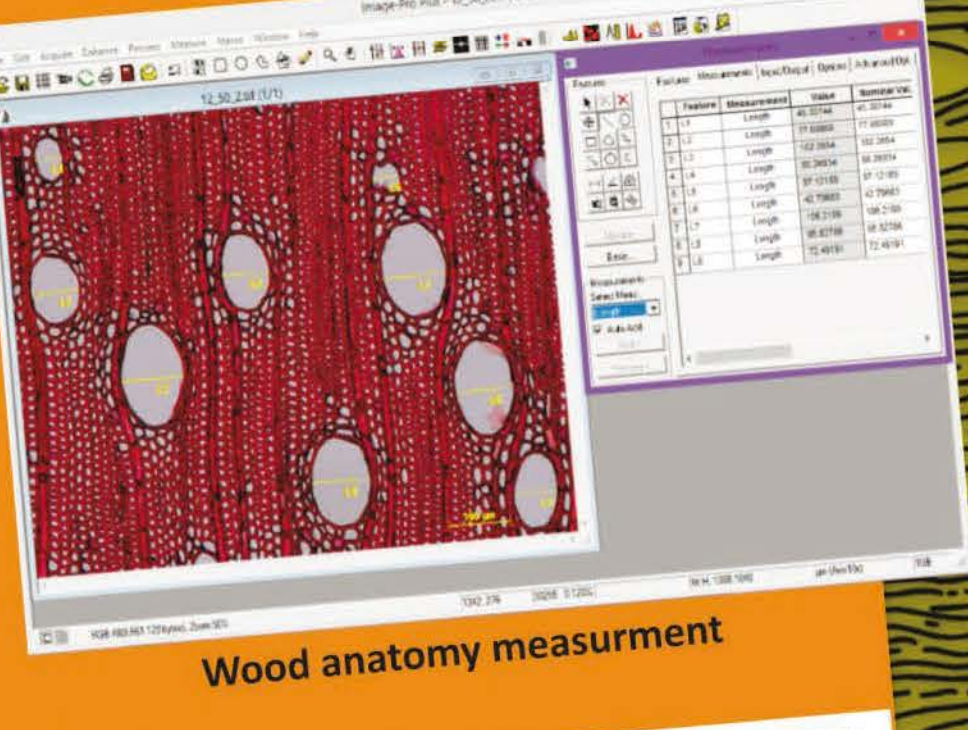
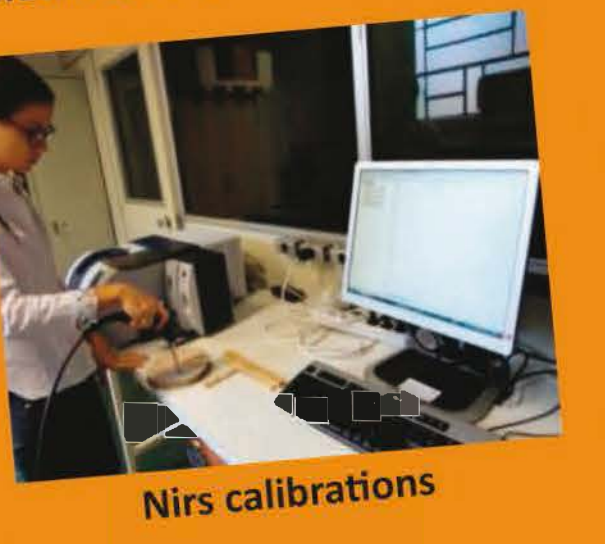
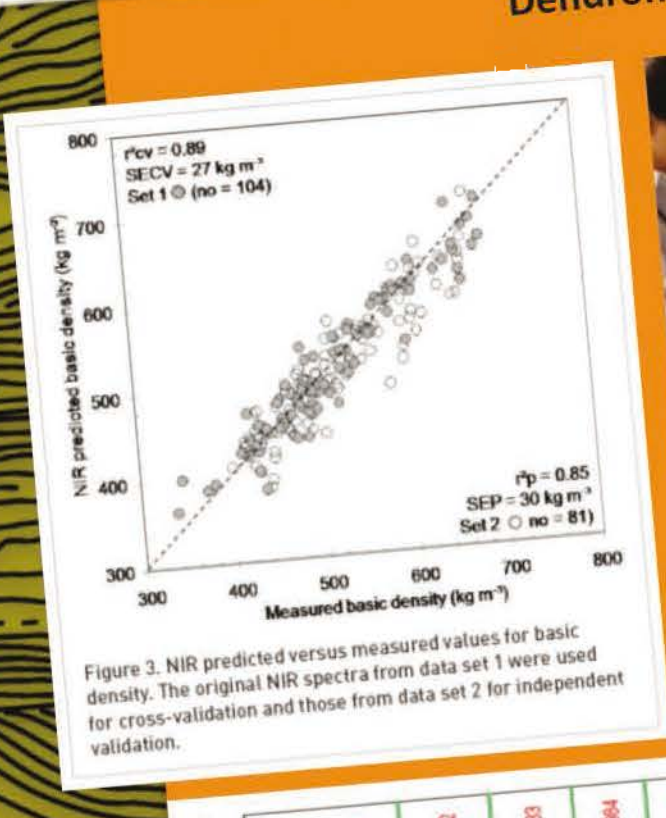
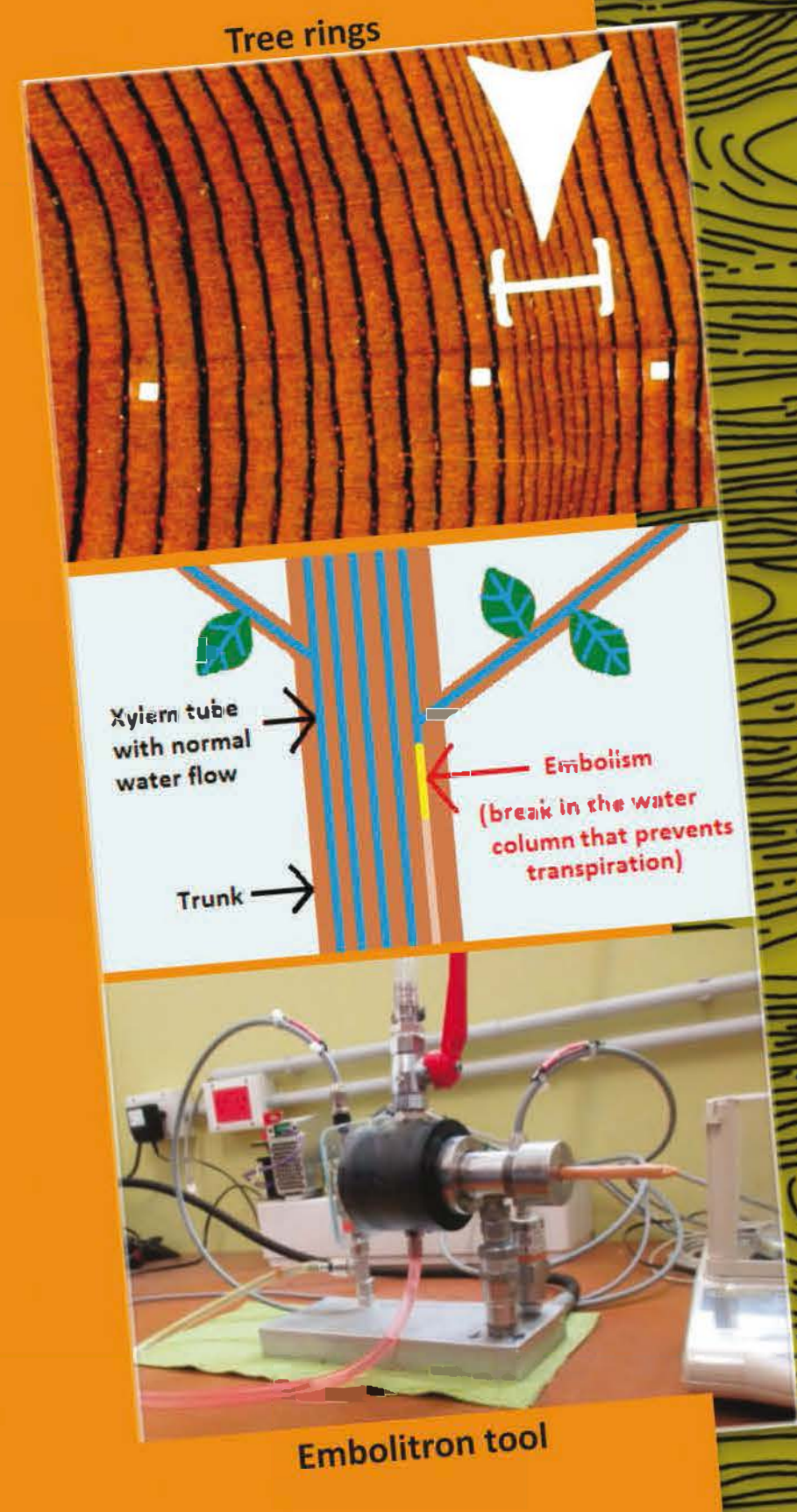


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NETWOODRESIST - TOOLS AND DEVELOPEMENT

- Example of tools we apply in studies of forest responses to drought stress:
- Cavitation resistance measured by Emboliton tool
 - Wood density and dendrochronology by X-Ray microdensitometry
 - Wet chemistry of wood compounds (extractives, lignin, cellulose)
 - Wood chemicals in micro-samples by pyrolysis analysis
 - Near InfraRed Spectroscopy applied for wood
 - Cambial activity, wood anatomy and cell-wall ultrastructure
 - Field experiment in natural forests and plantations
 - Automatic growth monitoring, application tools in the field



NETWOODRESIST - DEVELOPMENT OF NETWORK

- Potencial partners could be included
- EU: France (Amap, B&sef, Biowood, Eco&Sols, Ecofog, Pfaf, Biogeco, Lerfob, U. Bordeaux), Portugal (Utad), Austria (Boku), España (Maderas)
 - LA: Argentina (University of Buenos Aires, UNCPBA Tandil, U. of Rio Negro, INTA Montecarlo-Misiones, Parque Tecnológico Misiones, CCT Conicet Mendoza), Chile (U. of Talca), Mexico (U. of A.M.Iztapalapa), Brazil (U. Federal de Lavras, Embrapa Florestal, IPEF)
 - Africa: University of Lomé (Togo), U. of Antananarivo, ESSA-Forêts (Madagascar)

- Key dates and mains objectives for development of the Network and activities
- Eranet-Lac funding NetWoodResist from 04-2015 to 10-2016: Agreement of Network signed by founders before 10-2016
 - Potential projects submitted to second call of Eranet-Lac Program, H2020, Agropolis, ...



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